

10480 12 1/2 1651/114.

Typographia Naturalis:

OR, THE
ART of PRINTING,
OR TAKING
IMPRESSIONS from *Natural* SUBJECTS,
AS
LEAVES, SHELLS, FOSSILS, &c.
AS ALSO FROM
MEDALS, INTAGLIOS, &c.

BY MEANS OF
I S I N G L A S S;
PROPOSED FOR THE
RATIONAL AMUSEMENT
OF THE
INGENIOUS VIRTUOSI.

By BENJAMIN MARTIN.

L O N D O N:
Printed for the AUTHOR, at N^o 171, in Fleet-Street, 1772.

ADVERTISEMENT.

BESIDES the capital Uses of the Ichthyocolla, considered as the only Medium of printing from Nature, there are other Uses to which it may be applied, and which are far from being inconsiderable or unworthy Notice from the most curious Artist. As a Glue, it must be allowed the strongest in Nature; and though too expensive for the common Purposes of the Joiner, yet it will be found extremely serviceable to the Ladies in Cases of their broken China, Glasses, fine Earthen Ware, &c. the fractured Parts of which may be so nicely joined, that the Fracture in many Cases will not appear; and broken Bowls, Dishes, Glasses, &c. so put together will hold any Fluids that are not hot; for cold Water will not dissolve this Glue. For this Method of mending (or rather restoring) China and Glass, the Glue must be made very hot (but not to boil) and also the Surfaces of the broken Parts must be thoroughly heated, then being nicely touched over with a Camel-hair Brush dipped in the hot Glue, and gently pressed together, and so held for a little Time, the Parts will be firmly consolidated; and may, when cold, be cleansed with cold Water. So inconceivably strong is the Adhesion, that when I have spread it upon polished Glass, and then taken it off when cold and dry, it has actually brought off the Surface of the Glass along with itself. And by mixing it with Steel Filing you may form them into an artificial Bar, very strong, and when touched in the usual Way, will attract and repel Iron, as other Magnets do, and thus many other curious Experiments may be tried for the Improvement of Arts.





Typographia Naturalis:



The ART of PRINTING or taking IMPRESSIONS from *Natural* SUBJECTS.

THE Art I am going to describe, may be properly intitled, *TYPGRAPHIA NATURÆ*, or the ART of PRINTING from NATURE, that is, from Natural *Types* by Impressions of *Ichthyocolla*, or *Isinglass*; for I have found by considerable Experience, that most Subjects of the *Animal*, *Vegetable*, and *Fossil KINGDOMS* afford great Variety of Bodies which I call *Natural Types*, because they answer the same Purpose as *literal Types* in common Printing, viz. for impressing their Forms, Figures, Characters, Lineaments, and every Feature, upon fine transparent *Lamine* or Plates of *Isinglass*, as the Letters, &c. communicate theirs to Paper.

As there is nothing so delightful to a rational Mind as the Contemplation of Nature, so nothing can be supposed to exceed the Pleasure that such Persons must be susceptible of, and really feel, in the most perfect Imitation of the Works of Nature by means of *Isinglass* only; for though many Ways and Methods have been invented by the Lovers of Natural Science to take and preserve the Impressions and Forms of Natural Ob-

jects, yet no one has been found to answer that End, or succeed to their Wishes. The Method I here present to the Public, I can recommend as the most adequate for all such Intentions, as the Phænomena of Natural Objects may be so nicely and exquisitely imitated in Form, Lineaments, and Colour, that the *Type* has been taken for the *Prototype*, or the *Copy* for the *Original*, in many Instances of Leaves, Shells, &c. of which I can produce plenty of Examples.

I know no Way so good as this for making a *Hortus Siccus*, which, in the usual Way, has always a mean Aspect, and a poor Effect. The Plants and their Leaves, Stalks, &c. inclosed between Papers, decay, dry, loose their Colour, and become brittle; and by such Incidents are useless in very few Years; whereas just the Contrary happens when the *Garden of Nature* is printed off in *Isinglass Copies*, and properly coloured, which then may be always viewed in its Bloom; the LEAVES, FLOWERS, *Farina*, &c. ever appear vivid, strong, and natural, without being in the least liable to decay in any Length of Time; and are preserved in a very small Compass.

To practise this curious Art with Ease and Success, you will provide the following Apparatus of Instruments, viz. (1.) A plane polished marble Slab, about 12 or 15 Inches long, 8 or 10 Inches wide, and $\frac{3}{4}$ of an Inch thick; because Isinglass, when dry, will separate from Marble with the utmost Ease, and often of its own Accord. If Marble be not at hand, a Piece of *Slate*, or smooth Brass will do. (2.) Three small Brushes of Camel's Hair, and ditto of Hog's Bristles of the finest Sort, and of different Sizes, nicely pointed with Scissars. (3.) A Knife with a very thin Blade, with a round End about 3 or 4 Tenths of an Inch wide, and always kept very sharp on a Hone. (4.) A Piece of Lead or thick Brass, about 4 Inches long, and $\frac{3}{4}$ wide; $\frac{1}{2}$ an Inch at one End is to be bent down at Right Angles, that it may be placed on any rising Part of a Leaf, &c. to keep it down by its Weight. (5.) Two equal Pieces of Lead about 6 Inches long, 3 wide, and $\frac{3}{4}$ thick, lined on the Bottom with fine thin Leather, and a small Brass Ring screwed into



into the Top to move them. By ~~these~~ are placed on the Leaf between Papers; one on each Side the Rib, to press it smooth. (6.) Brass Nippers, or Pincers, for holding or moving the Leaves, Shells, Wings of Insects, &c. as there may be occasion. (7.) For those who chuse to be very nice and exact in this *Art of Natural Printing*, I would recommend a Frame of Wood with two Spirit-Levels on which to place the Marble Plane; because then the Medals, Leaves, &c. might be readily brought to a horizontal Position by Screws, and the Glue be spread most equally upon them. (8.) Medals and other Objects which have a *Relievo*, or uneven Surfaces, require to be placed upon Rings of Brass or Wood of different Sizes, about $\frac{1}{4}$ or $\frac{1}{2}$ an Inch high. (9.) A fine and sharp pointed Penknife; and another ditto with the End of the Blade about the Tenth of an Inch broad, and very thin and sharp; not round, but square or rectangular. (10.) Two or three Sewing-Needles fixed in small round Handles of different Sizes. (11.) Ditto Pieces of long fine Brass Wire, pointed at the End, and very springy or elastic; these are often necessary in Shell-Impressions. (12.) A large Book with folding Leaves to contain the *Hortus Siccus*, or rather MUSEUM of Natural PRINTS or PORTRAITS, with the two above-mentioned Leaden Weights placed upon it, to keep the *Impressions* always even and smooth.

As the LEAVES of VEGETABLES are their most *characteristic* Parts, they will, of Course, be the principal Subject of this Art; and in order to take their PRINTS or IMPRESSIONS in the most ready and perfect Manner. I have found by Experience, the following Method must be pursued; (1.) The Leaves (or Branches of Leaves) should be gathered in the Months of JULY and AUGUST; for when they are too young, or too old, they do not altogether so well. (2.) They should be entire and sound; as flat or even as possible. (3.) They should have all the Variety of Figure or Form peculiar to the Species; and of the largest Size. (4.) About half an Inch of the Tail or Foot-Stalk of the Leaf should be left on with it.

(5.)

(5.) Leaves that are not smooth and even naturally, must be made so by placing them between the Leaves of a Book, with the Weights on the Top of it; and in 8 or 10 Hours Time, they will be sufficiently planished. (6.) Then with a fine Hair Brush dipped in Gum-Water, Paste, Starch, &c. besmear the Face of the Leaf, and lay it on the Marble or Slate, taking Care to press out all the Air between; and let them remain till they are dry. (7.) The Isinglass being just melted, or liquified, take it out of the Vial with a Brush, and lay it over all the Surface of the Leaf very evenly, adjusting it to a Level by the Screws, &c. if you have them. (8.) When the first Layer is dry, put on a second; and when that is dry, a third, which will be sufficient in general. (9.) This drying of the Impressions must be gradual, and in the Shade, by no means near a hot Fire or the Sun.

The Process now given relates only to the taking off *single* Impressions from Medals, Leaves, Shells, &c. And though such *single Prints* will be extremely perfect and natural, yet they may be still improved, by taking off a *double Impression*, especially from Leaves, where one Impression is made immediately from the Leaf, and the other is made from that while it lies upon the Leaf, and yet so very nice as to exhibit the finest and minutest Strokes or Lineaments which Nature herself has drawn on the Leaf. And not only a *double*, but a *triple* Impression may be easily taken from the Leaf, or Medal, at once; and all true Copies of the Original; each so exactly tallying with the other, that all *three together* make but *one Impression* in Appearance.

The Reason of my hitting upon the Method of taking a *second Impression* from the *first*, was the difficulty of separating the first Impression from some Sorts of Leaves, especially those of a loose and spongy Texture, or Surface: but there is a secret Quality in some Leaves of a close and solid Texture, and even a fine polite surface, which will cause the Glue to adhere so very firmly, and be imbibed so intimately, as to make a Separation of the Impression extremely difficult, sometimes impossible;

possible; in all such Cases, the Method of *double or triple Impressions* is absolutely necessary, and will never fail you of the finest Portraits in all the rich Variety of Foliage in Plants, Flowers, &c. which every where presents itself in the Field of Nature.

The Isinglass being dry for the first Impression, you dip the Brush in the *green Vegetable Tincture* (prepared for this Purpose) and spread it equally over the whole Surface of the dry Glue upon the Leaf; it will very soon be dry; and if you go over it with the Tincture a second Time, it will be more effectual: When this is done, just before the Tincture is quite evaporated put on another Layer of Isinglass; and when that is nearly dry, lay on another; and these when dry will make a 2d Impression, easily separable from the first. If a third Impression be desired, you apply the Tincture again upon the 2d; and then upon that the Isinglass is twice spread as before. Three Impressions are as many as most Leaves will bear.*

If the Green Tincture be put in a sufficient Quantity on the Surface of the Leaf itself, the first Impression will, generally, separate so readily as to leave the Leaf entire; and both the Leaf, and 1, 2, or 3 Impressions will be all together connected on the Foot-Stalk of the Leaf, and will thus make an agreeable Appearance to the Eye of the curious Naturalist.

After the Impressions are thorough dry, you take them off from the Slate, Marble, &c. by passing the fine Point of the Pen-knife under the Edge of the Leaf (begining at the Stalk,) and going all round the extreme Parts, they will easily separate from the Slate; and then the Knife, with the broad thin Top, being carefully insinuated under the Leaf, it will readily rise entire from the Plane.

The Leaf thus raised and dry, is to be drawn over the Finger with an incurved Motion, several Times on both Sides; this disposes the *Laminae* of Isinglass to be easily separated with the Point of the Knife, both from the Leaf and from each other; and then Pieces of Blue Paper put between the Impressions,

* From some Leaves you may take four, viz. two from each Side, as they have Ribs equally strong and raised on the Face as on the Back.

they are to be laid by as finished. And after a similar Manner you proceed with *Shells*, *Crytals*, *Minerals*, and all other natural Productions, whose Surfaces will admit of being copied.

The Advantages peculiar to this Method of taking Impressions above all others by *Sulphur*, *Sealing-Wax*, *Plaster of Paris*, &c. are the following, viz. (1.) The Impressions are here transparent, but opaque in every other Way. (2.) On this Account the Figure, Texture, and finest Lineaments, are more conspicuous and evident in the Impressions than in the Leaf itself. (3.) The Perfection of the *Copy* or *Print* in this Way, as much exceeds the Casts by Plaster, as the Fluidity of heated Glue exceeds that of coarse terrestrial Matter. (4.) They are extremely thin and light, all others being thick, clumsy, and heavy. (5.) They are extremely strong and tough, not in the least friable or liable to break, as all others are. (6.) They are made with Ease, the others with Trouble and Difficulty. (7.) They are light, and may be sent in Letters to any Part of the World, the others cannot. (8.) The Matter of these is of the last Duration; the other subject on every Account to decay. (9.) The Impressions from GOLD MEDALS may be gilt with *Leaf Gold*; and those from SILVER MEDALS, with *Leaf-Silver*; and thus they will be always a lively Representation of the Originals themselves. (10.) In this Way also, the Transparent Wings of Insects are preserved in their natural Colours; the cast-off Skins of Spiders, Water-Newts, &c. are secured from the Injuries of Time. It would require a Volume, and many Copper-plate Figures to give a just Idea of the extensive and curious Uses that may be made of this Sort of *Natural Typography*; especially by those who travel abroad in search after natural Curiosities. But I apprehend the Hints here given will be sufficient for the present, to initiate any one into the Practice of this Art, which is now in its Infancy, and must be left to the ingenious VIRTUOSI to advance to a more perfect State.

N. B. This *Isinglass* and *Tincture* duly prepared may be had, in any Quantity, of the Author, at No. 171, in Fleet-Street.

F I N I S.

